United States Government Accountability Office

Report to Congressional Requesters

February 2020

COAST GUARD

Initiatives to Address Aids to Navigation Challenges Could be Enhanced to Better Ensure Effective Implementation

GAO-20-107

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GAO Highlights

Highlights of GAO-20-107, a report to congressional requesters

Why GAO Did This Study

One of the Coast Guard's statutory missions is the care and maintenance of ATON. Much like drivers need signs and universal driving rules, mariners need equivalent nautical "rules of the road." As of November 2019, the Coast Guard managed 45,664 federal fixed and floating ATON that are designed to assist those operating in the U.S. Marine Transportation System, which includes about 25,000 miles of waterways, 1,000 harbor channels, 300 ports, and 3,700 terminals. According to the Coast Guard, as of July 2018, these ATON had a collective replacement value of about $1.6 billion. The Coast Guard has faced an array of challenges in managing its ATON, such as deteriorating buoys, and questions have been raised regarding the extent to which the Coast Guard is addressing these challenges.

This report (1) describes what is known about the condition and costs of maintaining the Coast Guard's ATON, and (2) examines challenges the Coast Guard has experienced in managing its ATON and how it is addressing them. To address these issues, GAO reviewed ATON regulations and guidance, analyzed data on ATON condition and cost measures, collected input from all nine Coast Guard districts on ATON challenges, accompanied ATON units on mission activities, assessed agency initiatives using leading program management practices, and interviewed headquarters and field unit officials.

What GAO Recommends

GAO recommends that the Coast Guard update its ATON initiatives by including the specific outcomes to be achieved and associated time frames. The Department of Homeland Security concurred with the recommendation.

View GAO-20-107. For more information, contact Nathan Anderson at (206) 287-4804, or andersonn@gao.gov

What GAO Found

The condition of the Coast Guard's aids to navigation (ATON), both fixed (e.g., lighthouses) and floating (e.g., buoys), have declined slightly while the overall costs for repairing or replacing them increased in recent years. According to Coast Guard data, its key metric for ATON condition—the Aid Availability Rate, or percentage of time that ATON are functioning correctly—declined from 98.0 to 97.1 percent during fiscal years 2014 through 2018, dipping slightly below the 97.5 percent target rate in fiscal years 2017 and 2018. During this time period, the overall costs to repair and replace ATON increased from about $12 million in fiscal year 2014 to about $20 million in fiscal year 2018. According to Coast Guard data, the majority of the costs for fixed ATON were spent on repairs whereas the majority of the costs for floating ATON were spent on replacements.

Examples of the Deteriorating Condition of Some Fixed and Floating ATON

ATON deterioration

This **damaged range/tower** is in need of repair.

These **5' x 9' floating, foam buoys** are showing deterioration from continued exposure to harsh maritime conditions.

These **6' x 20' lighted steel buoys** are eroded and rusty from extended exposure to saltwater and other harsh maritime conditions.

Source: GAO analysis of U.S. Coast Guard information; GAO (photos). I GAO-20-107

The Coast Guard faces challenges in managing its fixed and floating ATON and has developed plans and initiatives to address them, but it has limited assurance that the plans and initiatives will be effectively implemented. According to Coast Guard officials, the challenges include decreased availability of vessels to service ATON, reduced ability to provide routine ATON servicing in a timely manner due to severe weather, among other factors, and limited capacity at ATON major repair and refurbishment facilities. The Coast Guard has developed plans to guide the ATON program, and these plans have led to the development and implementation of various initiatives at the headquarters and field unit levels to address these challenges. However, GAO found that the initiatives do not contain certain elements that help ensure effective implementation—such as desired outcomes and schedule milestones and completion dates—as recommended by leading program management practices. According to Coast Guard officials, they are still developing guidance and procedures for ATON-related initiatives that are to be implemented by the districts. By updating these initiatives to include certain elements, such as the specific outcomes desired and timeframes for completing them, the Coast Guard would have better assurance that its initiatives to address ATON management challenges will be effectively implemented.

United States Government Accountability Office

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Abbreviations

AAR	Aid Availability Rate
ATON	Aids to Navigation
DHS	Department of Homeland Security
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
I-ATONIS	Integrated ATON Information System
NAIS	Nationwide Automatic Identification System
SILC	Shore Infrastructure Logistics Center
WOPL	Waterways Operations Product Line

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

February 5, 2020

The Honorable Sam Graves
Ranking Member
Committee on Transportation and Infrastructure
House of Representatives

The Honorable John Garamendi
House of Representatives

One of the 11 statutory missions of the U.S. Coast Guard, within the Department of Homeland Security (DHS), is the administration of the U.S. Aids to Navigation System, which consists of federal aids to navigation (ATON) operated by the Coast Guard, ATON that serve the needs of the Armed Services, and private ATON operated by other persons.[1] Much like drivers need stoplights, street signs, and universally-accepted driving rules, mariners need equivalent nautical signs and "rules of the road." The Coast Guard is responsible for ensuring this network of physical ATON—such as signs, buoys, markers, and lighthouses—are maintained and functioning properly so commercial mariners and recreational boaters can safely navigate in the maritime environment.

According to Coast Guard officials, as of November 2019, the Coast Guard managed 45,664 federal fixed and floating ATON that are designed to assist those operating in the U.S. Marine Transportation System, which includes about 25,000 miles of waterways, 1,000 harbor channels, 300 ports, and 3,700 terminals.[2] These physical ATON consist of fixed structures (e.g., lighthouses) and floating assets (e.g., buoys)[3]

[1]See 6 U.S.C. § 468(a); 14 U.S.C. §§ 102, 541.

[2]This number includes an estimated 11,490 river buoys and 670 river beacons deployed in the Western Rivers as of November 2019. According to Coast Guard officials, the number of river buoys fluctuates throughout the year due to changing river levels.

[3]This report focuses solely on federal fixed and floating ATON. As of November 2019, the Coast Guard managed 44,871 private ATON—used to mark obstructions and channels that may be useful to a single mariner or a small group of mariners—as well as electronic ATON that are transmitted over the Nationwide Automatic Identification System (NAIS) and can be detected by any mariner with a radar or electronic charting system capable of displaying NAIS information.

that, according to an internal Coast Guard report, as of July 2018, had a collective replacement value of about $1.6 billion.[4]

The Coast Guard has faced an array of challenges in managing its ATON—such as the deteriorating condition of fixed and floating ATON and limits in the Coast Guard's ability to keep pace with needed ATON repairs and replacements—and questions have been raised regarding the extent to which the Coast Guard is able to address the challenges it faces associated with carrying out the ATON mission. You asked us to review Coast Guard's management of fixed and floating ATON. This report addresses (1) what is known about the condition and costs of maintaining the Coast Guard's fixed and floating ATON, and (2) challenges the Coast Guard has experienced in managing its fixed and floating ATON and how the Coast Guard is addressing these challenges.

To determine what is known about the condition and costs of maintaining the Coast Guard's fixed and floating ATON, we took the following steps:

- To identify recent trends in the condition and costs of maintaining the Coast Guard's fixed and floating ATON, we reviewed Coast Guard annual reports on shore infrastructure covering fiscal years 2014 through 2018 (the first of which was issued in fiscal year 2015) that provide a summary of issues such as the fixed and floating ATON asset line, an overview of the ATONs' ages compared to their designed service lives, and how the ATON are performing in relation to existing Coast Guard performance metrics. In order to describe the Coast Guard's process for maintaining its fixed and floating ATON, we analyzed relevant Coast Guard plans, policies, and procedures—such as *ATON Technical and Administration Program Manuals*—and related ATON regulations.[5]
- We collected and analyzed data Coast Guard officials identified as the best condition measures for fixed and floating ATON. Specifically, for each of the Coast Guard's nine districts, we obtained data covering fiscal years 2014 through 2018 on (1) the numbers of fixed and floating ATON, (2) ATON availability rates (the probability that ATON are functioning correctly at any random, chosen time expressed as a percentage), and (3) the percentage of ATON serviced on time. We

[4]U.S. Coast Guard Shore Infrastructure Logistics Center, *SILC 2018 Annual Report* (Norfolk, VA: 2018).

[5]See 33 C.F.R. ch. 1, subch. C.

also collected and analyzed available data on the Coast Guard's repair and recapitalization (replacement) expenditures for fixed and floating ATON for fiscal years 2014 through 2018. To assess the reliability of these data, we examined responses the Coast Guard provided to questions regarding the administration and oversight of the relevant information systems; as well as interviewed Coast Guard officials about these systems and their processes for ensuring data reliability. We determined that the data are sufficiently reliable for the purposes of our reporting objectives.

- In addition, we conducted site visits and in-person meetings with Coast Guard officials in Baltimore, MD and Wilmington, DE (District 5); as well as in Mobile, AL and New Orleans, LA (District 8) to directly observe the Coast Guard process for servicing and repairing fixed and floating ATON and to obtain and describe the local conditions of maintaining these ATON in different parts of the country. We selected these site visit locations based on a variety of factors, to include a range in the volume and types of fixed and floating ATON, and the availability of ATON servicing schedules and ATON units.
- To supplement this information, we gathered information from knowledgeable Coast Guard officials with responsibility for managing and implementing the ATON mission—both at headquarters and in each of the Coast Guard's nine districts—in order to summarize and corroborate information and data on the condition and costs of maintaining Coast Guard fixed and floating ATON. For the districts, we used a standardized question set to either interview Coast Guard officials (in Districts 5 and 8), or request written responses (at the remaining seven Coast Guard districts) to obtain information on, among other things, the local conditions and costs of maintaining fixed and floating ATON and the related maintenance practices.

To determine the challenges the Coast Guard has experienced in managing its fixed and floating ATON and how the Coast Guard is addressing these challenges, we took the following steps:

- We collected and analyzed Coast Guard information from annual reports on shore infrastructure and strategic planning documents, such as the Coast Guard's *Strategic Planning Directions* for fiscal years 2015 through 2019, that describe issues and challenges the Coast Guard has experienced in maintaining fixed and floating ATON. These documents also include information on Coast Guard initiatives planned or under way to address these challenges. We also collected available Coast Guard data on challenges in managing fixed and floating ATON, detailed information describing the Coast Guard's

fixed and floating ATON initiatives, and interviewed Coast Guard officials with responsibility for managing and implementing the ATON mission, in order to describe these challenges and initiatives. Further, we collected available information on issues or limitations the Coast Guard reported as having an impact on its ability to fully address the challenges associated with managing fixed and floating ATON

- In addition, we collected documents and data from the relevant Product Line Managers at the Coast Guard's Surface Forces Logistics Center on the number, types, and condition metrics for Coast Guard vessels that support the ATON mission. This included data on (1) the numbers of planned and unplanned maintenance days, (2) maintenance hours, and (3) achieved material availability rates (calculated based on the vessels' availability and performance) for each vessel class for fiscal years 2014 through 2018. To assess the reliability of these data, we examined responses the Coast Guard provided to questions on the administration and oversight of the relevant information systems, and we interviewed Coast Guard officials about these systems and their processes for ensuring data reliability. We determined that the data are sufficiently reliable for the purposes of our reporting objectives.
- We then analyzed the above information to identify what impact these issues and challenges may have had on the Coast Guard's ability to accomplish ATON missions and responsibilities and the extent to which fixed and floating ATON initiatives address the challenges. To determine if the Coast Guard's efforts to improve management of fixed and floating ATON included measures to guide decisions on their success, we assessed the Coast Guard's initiatives using guidance from the Program Management Institute on program and project management.[6] In addition, we compared the initiatives to GAO's leading practices in capital decision-making that identify the key elements of a project decision package.[7]

We conducted this performance audit from October 2018 to February 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for

[6]Project Management Institute, *The Standard for Program Management, Fourth Edition* © (2017).

[7]GAO, *Executive Guide*: *Leading Practices in Capital Decision Making*, GAO/AIMD-99-32 (Washington, D.C.: December 1998).

our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

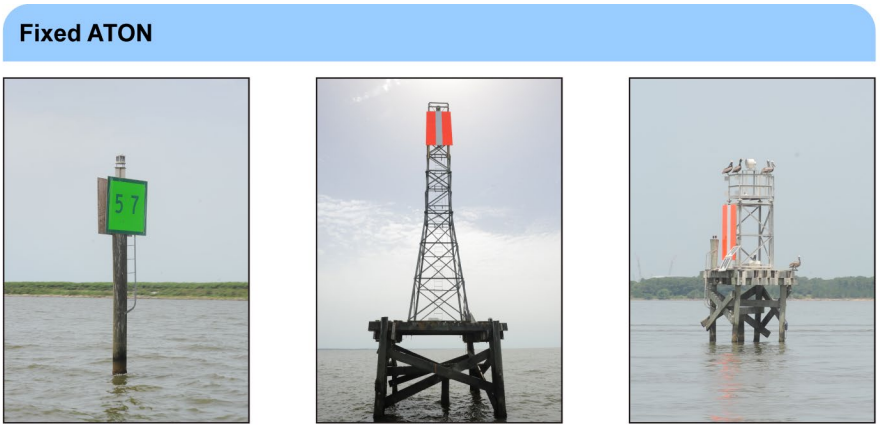
Background

Overview of Coast Guard's Federal Fixed and Floating ATON

Through its ATON mission, the Coast Guard promotes safe waterways and an efficient Marine Transportation System. The Coast Guard has statutory responsibility to operate and maintain a system of maritime aids to facilitate navigation and to prevent disasters, collisions, and wrecks.[8] To fulfill this mission, the Coast Guard operates and maintains ATON that are placed along coasts and navigable waterways as guides to mark safe water and to assist mariners in determining their position in relation to land and hidden dangers. As mentioned earlier, this report focuses on two categories of ATON: fixed ATON that include lighthouses, towers, and other structures that are directly affixed to the ground or seabed; and floating ATON that include buoys and markers anchored to the sea bed by a concrete or metal sinker connected by a metal chain or mooring. See figures 1 and 2 for examples of fixed and floating ATON.

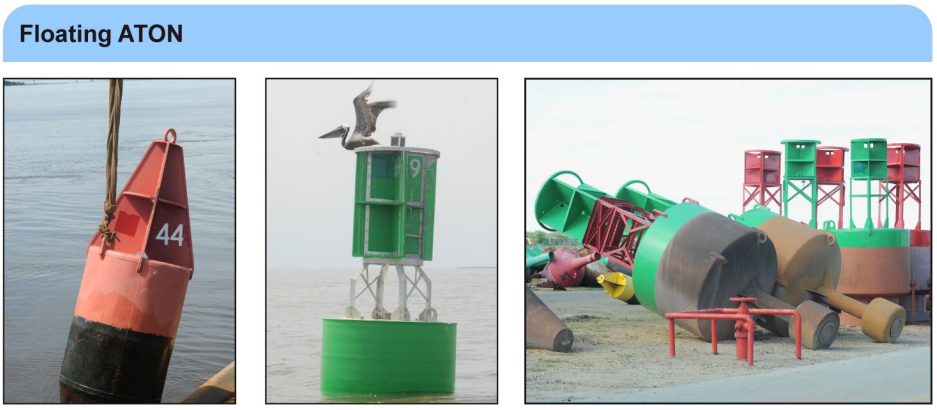
[8]See 14 U.S.C. §§ 102, 541.

Figure 1: Examples of Fixed Aids to Navigation (ATON)



Source: GAO analysis of U.S. Coast Guard information; GAO (photos). I GAO-20-107

Figure 2: Examples of Floating Aids to Navigation (ATON)



Source: GAO analysis of U.S. Coast Guard information; GAO (photos). I GAO-20-107

The Coast Guard uses several types of vessels to place and service fixed and floating ATON. These ATON vessels include buoy tenders, construction tenders, and boats. As of October 2019, the Coast Guard had a fleet of 79 ATON cutters and 190 ATON boats—which varied in size from a 240-foot Great Lakes Icebreaker to 16-foot ATON boats.[9] (See appendix I for additional details on the Coast Guard's fleet of ATON vessels.)

ATON Program Management

The Coast Guard's ATON program consists of several offices and units that work together to carry out the ATON mission:

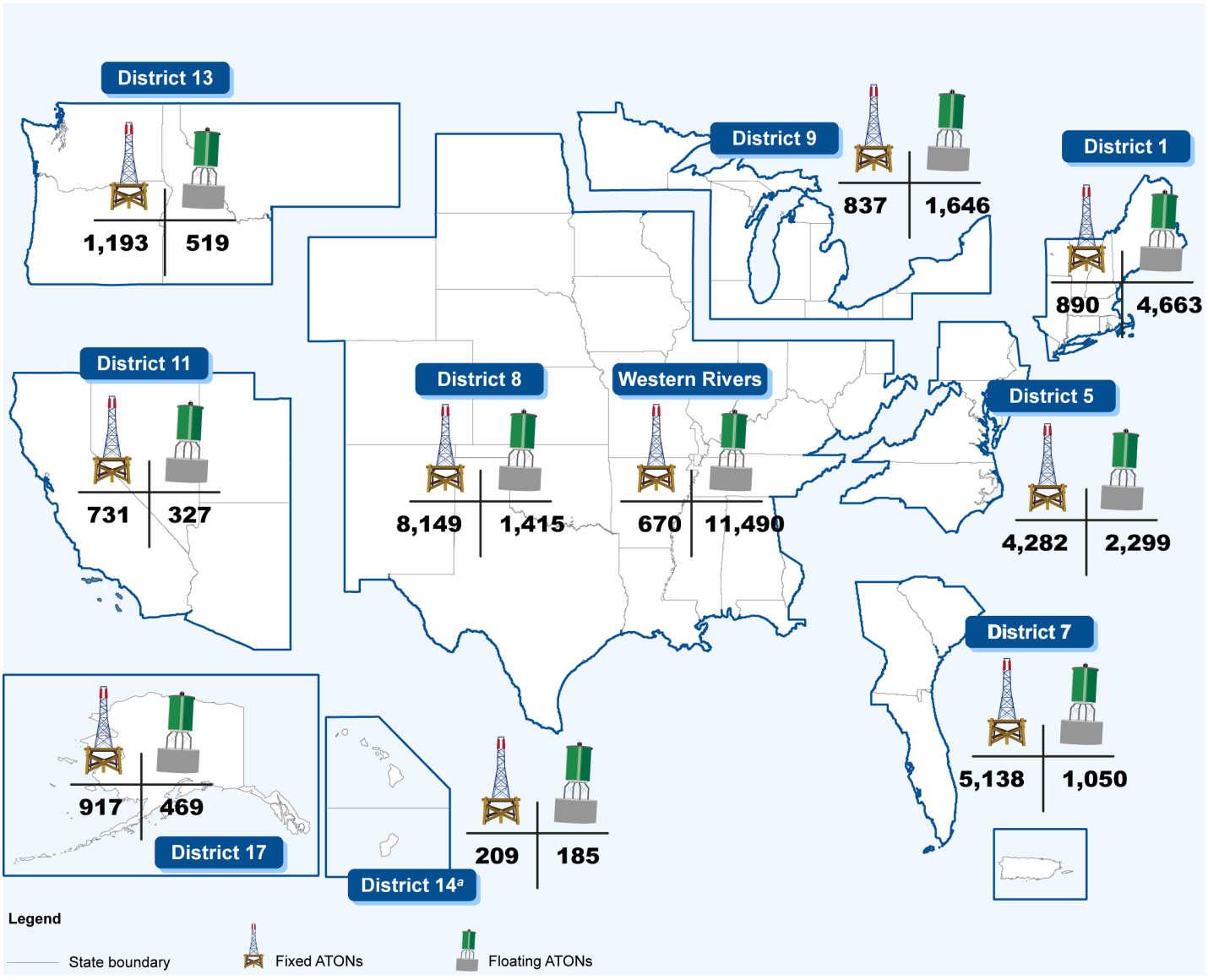
- **Office of Navigation Systems:** Based at Coast Guard headquarters in Washington, D.C., the primary ATON-related roles and responsibilities of Office of Navigation Systems officials include providing oversight and approval for ATON operations and policy. Specifically, the Aids to Navigation and Positioning, Navigation, and Timing Division within the Office of Navigation Systems is responsible for establishing requirements and policy; providing program level guidance; and coordinating processes, platforms, and personnel necessary to establish, maintain, and operate the U.S. ATON system.
- **Office of Civil Engineering:** Based at Coast Guard headquarters in Washington, D.C., the primary ATON-related roles and responsibilities of Office of Civil Engineering officials include providing oversight and approval for ATON engineering and logistics policy, including supervision of the Shore Infrastructure Logistics Center.
- **Shore Infrastructure Logistics Center (SILC):** Based in Norfolk, VA, SILC supervises the Civil Engineering Units that execute fixed ATON depot-level maintenance and recapitalization projects; as well as the Waterways Operations Product Line.
- **Waterways Operations Product Line (WOPL):** A division of the Coast Guard's Shore Infrastructure Logistics Center, WOPL was established by the Coast Guard in 2016 with the goal of serving as the focal point for implementing engineering and logistics solutions for ATON in order to enhance the mission while reducing costs. To do this, WOPL is to support the ATON mission by providing centralized

[9]The Coast Guard classifies its vessels, such as those used in the ATON mission, as "cutters" when they are 65-feet long or longer with adequate accommodations for crew to live on board, or "boats" when they are less than 65-feet in length and usually operate near shore and on inland waterways.

guidance and oversight covering such issues as ATON acquisition, ATON configuration management (the proper mix of ATON) across the Coast Guard's nine districts, ATON production and delivery, and ATON logistics and maintenance for the Coast Guard-wide inventory of ATON equipment and systems. WOPL's support encompasses the entire lifecycle of ATON equipment and systems, from acquisition through disposal.

- **Coast Guard Districts and Sectors:** The Coast Guard has nine districts, which have overall responsibility for administration of the ATON within their district. Each district oversees the coordination of operations at the sectors and individual ATON units, which includes cutters, boats, and Aids to Navigation Teams. Figure 3 shows a map of the Coast Guard's nine districts and the numbers of fixed and floating ATON in each district as of November 2019.

Figure 3: Map of U.S. Coast Guard Districts and the Number of Fixed and Floating Aids to Navigation (ATON), by District, as of November 2019



Source: GAO analysis of U.S. Coast Guard information; MapInfo (map). I GAO-20-107

[a]While not fully shown on the map, District 14 is responsible for the Hawaiian islands, Guam, American Samoa, and activities in Saipan, Singapore, and Japan.

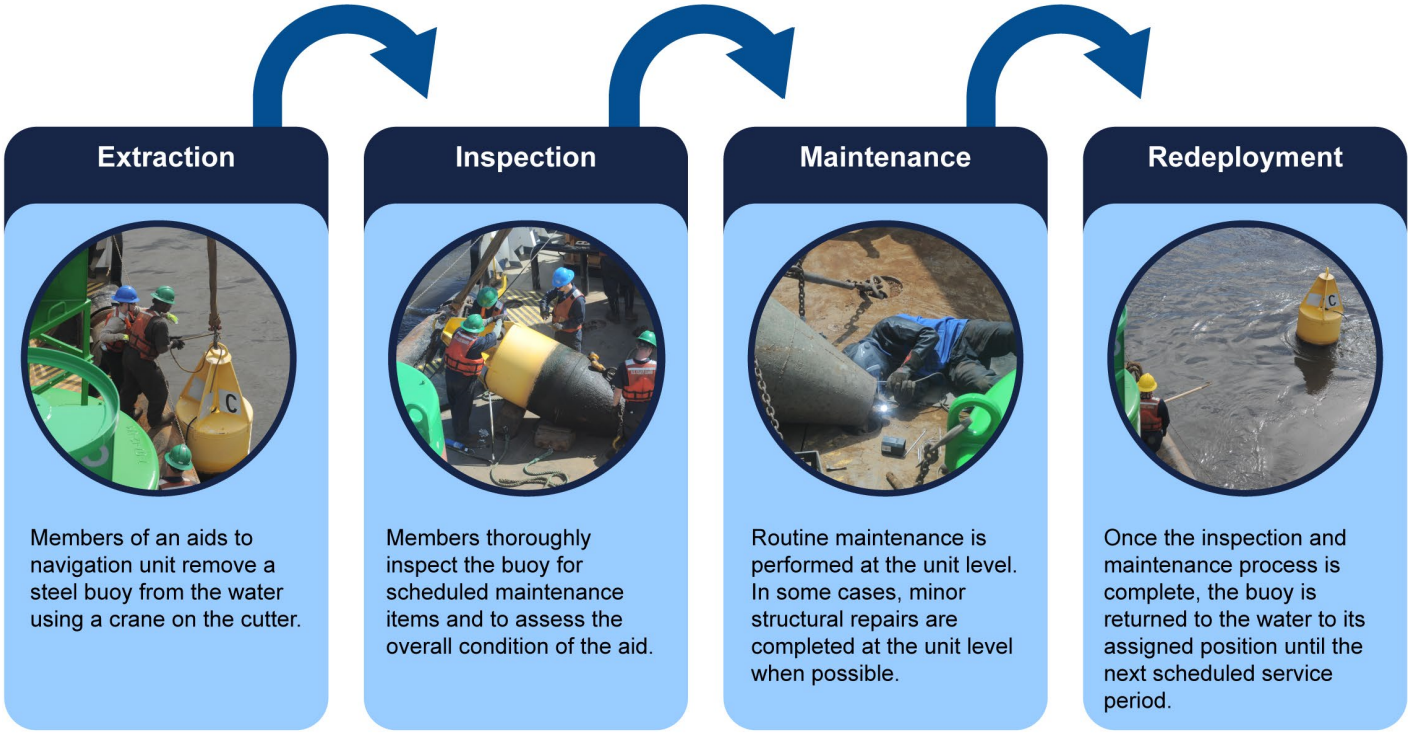
Note: The data in the map above include an estimated 11,490 river buoys and 670 river beacons deployed in the Western Rivers (within District 8). According to the Coast Guard, the number of river buoys deployed in District 8 can fluctuate between 10,000 and 15,000, depending on the levels of the inland waterways.

ATON Servicing and Maintenance Procedures

The ATON units are responsible for the servicing and maintenance of ATON by conducting both routine servicing based on the last-service dates of the ATON and non-routine servicing of ATON within their area of responsibility. The non-routine servicing process includes responding to and addressing discrepant ATON, which are aids that are not functioning properly due to, for example, a weather-related event such as a hurricane, or an equipment failure. Timely response to and correction of discrepant ATON is a high-priority task for the Coast Guard. According to internal guidance, the Coast Guard has a tiered approach to address ATON discrepancies that accounts for the importance of the ATON relative to the waterway and the nature of the discrepancy.[10] In particular, according to Coast Guard guidance, the servicing unit response ranges from immediately after notification up to 72 hours or as soon thereafter as weather and resources permit. In some cases, the determining factors do not require responding within 72 hours and the servicing unit is to advise the district of future plans to correct the discrepancy. Coast Guard guidance states that during the routine servicing process for floating ATON (buoys), the primary purpose of the ATON units is to check the buoys' positions, their condition, and ensure the correct operation of the buoys' signal hardware. As part of this process, the Coast Guard may extract the buoys from the water and bring them onboard an ATON vessel to check the condition of their mooring chain, hull, and lighting equipment. If necessary, the mooring chains are cleaned and repaired and non-functioning lanterns (lights) are replaced. After the planned repairs are made, the buoys are placed back in their assigned position in the water. See figure 4 for an example of the process used by an ATON unit to service a steel buoy.

[10]According to the Coast Guard's *Administration Manual*, as soon as is practical after receipt of a discrepancy report, the primary servicing unit (e.g. ATON unit) is to advise of future plans to correct the discrepancy. This determination is based, in part, on the unit's general ATON experience and familiarity with the aid, the waterway the aid serves, and the function or purpose of the aid.

Figure 4: Process Used by Coast Guard Aids to Navigation Units for Servicing Steel Buoys



Source: GAO analysis of U.S. Coast Guard information; GAO (photos). | GAO-20-107

When ATON units conduct routine or non-routine servicing of fixed and floating ATON, they also collect data on the condition of the ATON. These data provide a "snapshot" of the ATON's condition at the time of servicing and include the aid's geographic position; the last date that the ATON was serviced; the next-scheduled service date; and other detailed information about the aid, such as an assessment of the physical integrity of the ATON. If warranted, ATON units can initiate action for repair or replacement of ATON if necessary. The information gathered by ATON units during their servicing activities is entered into a Coast Guard database—the Integrated ATON Information System (I-ATONIS)—that is used to track and monitor fixed and floating ATON.[11] A hardcopy record

[11]According to the Coast Guard's *Administration Manual,* the Integrated ATON Information System is a centralized database system that serves many purposes, such as planning ATON service work and tracking performance measures.

containing detailed information about each aid is subsequently generated from I-ATONIS and stored in local unit files to track and schedule future fixed and floating ATON servicing dates.

ATON Program Budget

According to Coast Guard officials, based on the multi-mission nature of its assets and workforce, the Coast Guard does not budget for, request, or receive funding organized by specific missions or program activities. In addition, Coast Guard financial systems are not structured to collect accounting data by specific missions or program activities, and the Coast Guard does not report expenditures by mission. Rather, the ATON mission receives funding through various sources within the Coast Guard's annual budget. Specific to repairs and recapitalization of fixed ATON, in fiscal year 2018, $300,000 was allocated from Procurement, Construction, and Improvement funding while $10 million was allocated from the Coast Guard's Operations and Support funds for depot-level ATON maintenance.

Prior Work on Coast Guard Management of Shore Infrastructure

We previously reported on the Coast Guard's management and maintenance of its shore infrastructure, which—in addition to fixed and floating ATON—encompasses over 20,000 shore facilities such as piers, docks, boat stations, air facilities, and housing units at more than 2,700 locations.[12] In July 2018, we found that the Coast Guard had not been able to address many shore infrastructure projects, primarily due to lack of funding, longstanding acquisition management challenges, and that previous Coast Guard leadership prioritized the acquisition of new operational assets to replace aging vessels and aircraft over maintaining and repairing shore infrastructure.[13] We recommended, among other things, that the Coast Guard's annual Capital Investment Plans reflect acquisition trade-off decisions and their effects. The Coast Guard agreed with this recommendation, and estimated implementing actions by March 2020.

In February 2019, we found that almost half of the Coast Guard's shore infrastructure is beyond its service life, and its current backlogs of

[12]GAO, *Coast Guard Acquisitions: Actions Needed to Address Longstanding Portfolio Management Challenges*, GAO-18-454 (Washington, D.C.: July 24, 2018); and GAO, *Coast Guard Shore Infrastructure: Applying Leading Practices Could Help Better Manage Project Backlogs of At Least $2.6 Billion*, GAO-19-82 (Washington, D.C.: Feb. 21, 2019).

[13]GAO-18-454.

maintenance projects, as of 2018, will cost at least $2.6 billion to address.[14] We found that the Coast Guard's process to manage its shore infrastructure recapitalization and deferred maintenance backlogs did not fully meet 6 of 9 leading practices we previously identified for managing public sector maintenance backlogs. We recommended, among other things, that the Coast Guard establish shore infrastructure performance goals, measures, and baselines to track the effectiveness of maintenance and repair investments and provide feedback on progress made; develop and implement a process to routinely align Coast Guard's shore infrastructure portfolio with mission needs, including by disposing of all unneeded assets; and employ models for its asset lines for predicting the outcome of investments, analyzing trade-offs, and optimizing decisions among competing investments. The Coast Guard agreed with our recommendations and is taking steps to implement them.

The Condition of Fixed and Floating ATON Declined Slightly, While the Costs for Repairing and Replacing Them Increased in Recent Years

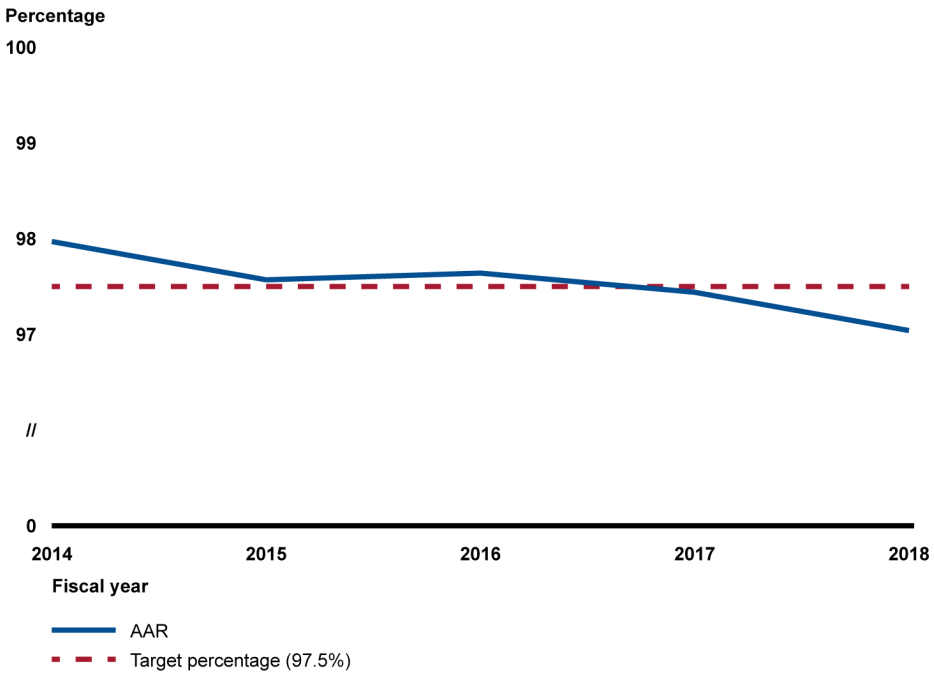
The Condition of the Coast Guard's Fixed and Floating ATON Declined Slightly from Fiscal Years 2014 through 2018

The condition of fixed and floating ATON Coast Guard-wide declined slightly from fiscal years 2014 through 2018, as determined by the Coast Guard's key ATON condition metric. In particular, according to data provided by the Coast Guard, the aid availability rate—the percentage of time ATON are functioning correctly—declined from 98.0 percent in fiscal year 2014 to slightly below the Coast Guard's performance target

[14]GAO-19-82.

percentage of 97.5 percent in fiscal years 2017 (97.4 percent) and 2018 (97.1 percent), as shown in figure 5.[15]

Figure 5: Aid Availability Rate (AAR) for Fixed and Floating Aids to Navigation, Fiscal Years 2014 through 2018



Source: GAO analysis of U.S. Coast Guard information. I GAO-20-107

While the aid availability rate metric indicates that the condition of fixed and floating ATON Coast Guard-wide declined slightly from fiscal year 2014 through fiscal year 2018, other factors—such as the age of many ATON—have contributed to more significant declines in the condition of ATON for some locations. For example, an internal Coast Guard report states that, as of 2018, nearly a quarter (24 percent) of all floating ATON and over half (59 percent) of all fixed ATON are operating past their designed service lives.[16] On a district level, the conditions of fixed and

[15]The Coast Guard's aid availability rate performance target percentage is adopted from the Safety of Life at Sea Treaty, chapter 5, whereby the United States is signatory to Aids to Navigation international recommendations and guidelines promulgated by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

[16]U.S. Coast Guard Shore Infrastructure Logistics Center, *SILC 2018 Annual Report* (Norfolk, VA: 2018).

floating ATON differ from one geographical area to the next, and varying weather conditions often have an impact on the physical condition of ATON. For example, the frigid weather conditions of the Great Lakes in certain months frequently erode the condition of both fixed and floating ATON. Coast Guard officials stated that ATON with large steel hulls many times cannot withstand the pressure and weight of ice that can form on them in the winter months. They also stated that the icy waters delay routine servicing trips for personnel to adequately address ATON, which can contribute to the deterioration of the aids.

In District 8's area of responsibility, which includes much of the Gulf of Mexico, Coast Guard officials said that severe storms and hurricanes can adversely impact the condition of fixed and floating ATON and delay servicing trips for safety reasons. Extended periods of exposure to saltwater is another factor that contributes to the degraded condition of ATON in District 8 and elsewhere, as water salinity often corrodes the hulls of steel buoys. In addition to weather, geographic factors can affect the condition of ATON as well. Coast Guard officials in District 1 (headquartered in Boston) stated that the hard, rocky coast in their district makes it difficult to secure fixed ATON structures to the seabed. As a result, this district requires a higher percentage of floating ATON to mark the location of these hazards and these floating ATON are often damaged by the rocks. See figure 6 for examples of the deteriorating condition of some fixed and floating ATON.

Figure 6: Examples of the Deteriorating Condition of Some Fixed and Floating Aids to Navigation (ATON)

ATON degradation

This **damaged range/tower** has been deemed unsafe to climb by an aids to navigation team.

These **5' x 9' floating foam buoys** are showing deterioration from continued exposure to harsh maritime conditions.

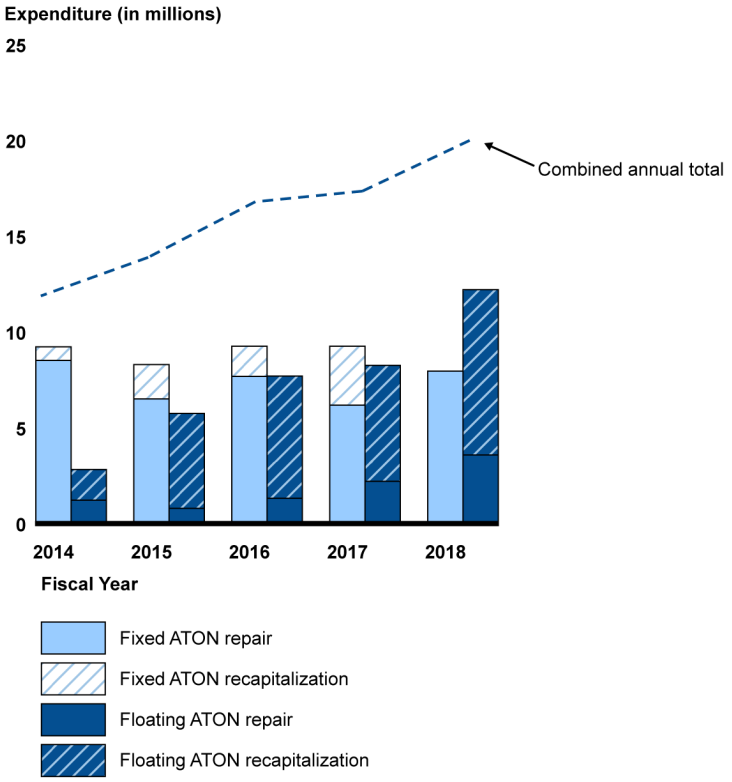
These **6' x 20' lighted steel buoys** are eroded and rusty from extended periods of time in saltwater waterways, as well as continued exposure to other harsh maritime conditions.

Source: GAO analysis of U.S. Coast Guard information, GAO (photos). I GAO-20-107

Total ATON Repair and Recapitalization Costs Increased During Fiscal Years 2014 through 2018

Our analysis of Coast Guard data shows that the Coast Guard's overall repair and recapitalization expenditures for fixed and floating ATON increased during fiscal years 2014 through 2018. Specifically, our analysis of Coast Guard data shows that total ATON repair and recapitalization costs increased from about $12 million in fiscal year 2014 to about $20 million in fiscal year 2018. As shown in figure 7, the majority of the costs for fixed ATON were spent on repairs whereas the majority of the costs for floating ATON were spent on recapitalizations.

Figure 7: Fixed and Floating Aids to Navigation (ATON) Repair and Recapitalization Costs, Fiscal Years 2014 through 2018



Source: GAO analysis of U.S. Coast Guard information. I GAO-20-107

Notes: Expenditure totals are in current year dollars. Also, according to the Coast Guard, there were no recapitalization expenditures for fixed ATON in fiscal year 2018.

The Coast Guard Has Faced Challenges in Managing ATON and Has Plans and Initiatives to Address Them, but Has Limited Assurance That They Will Be Effectively Implemented

The Coast Guard Has Faced a Variety of Challenges in Managing its Fixed and Floating ATON

According to Coast Guard documents, data, and officials, the Coast Guard has faced a variety of challenges in managing its fixed and floating ATON. The reported challenges include the availability of ATON vessels, difficulty in conducting routine ATON servicing in a timely manner, and capacity limits at ATON major repair and refurbishment facilities.

Availability of ATON Cutters and Boats

Our analyses of Coast Guard data on maintenance required of ATON cutters and boats during fiscal years 2014 through 2018 show that ATON cutter and boat availability varied by type and across classes. As described below, our data analyses showed that 10 of the 12 ATON cutter classes consistently met availability targets, whereas 4 of the 7 classes of ATON boats consistently met availability targets.

The Coast Guard determines the condition of its ATON cutters and boats using the following measures—planned and unplanned maintenance days, maintenance hours, and achieved material availability rate. Specifically,

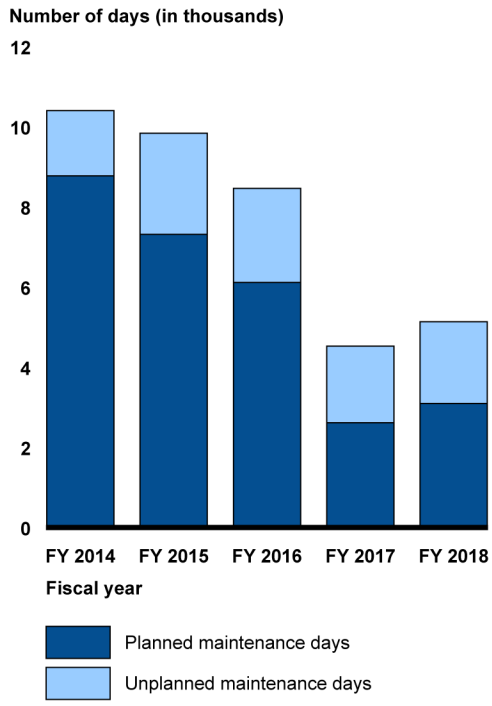
- **Planned maintenance days** are the number of days that a vessel is not mission capable due to scheduled maintenance. This measure is applicable to cutters.
- **Unplanned maintenance days** are the number of days that a vessel is not mission capable due to unforeseen maintenance issues and associated repair efforts. This measure is applicable to cutters.

- **Maintenance hours** are the total number of hours that a vessel spent in maintenance, including both planned and unplanned maintenance. This measure is applicable to boats.
- **Achieved material availability rate** is calculated based on a vessel's availability and performance. For cutters, the target availability rate range is between 53 percent and 65 percent. For boats, the target availability rate target is 80 percent.

ATON cutters

According to our analysis of Coast Guard data, the number of maintenance days for ATON cutters generally decreased during fiscal years 2014 through 2018, as shown in Figure 8. In addition, our analysis shows that the biggest decrease was with planned maintenance days.

Figure 8: Total Planned and Unplanned Maintenance Days for Aids to Navigation Cutters, Fiscal Years 2014 through 2018

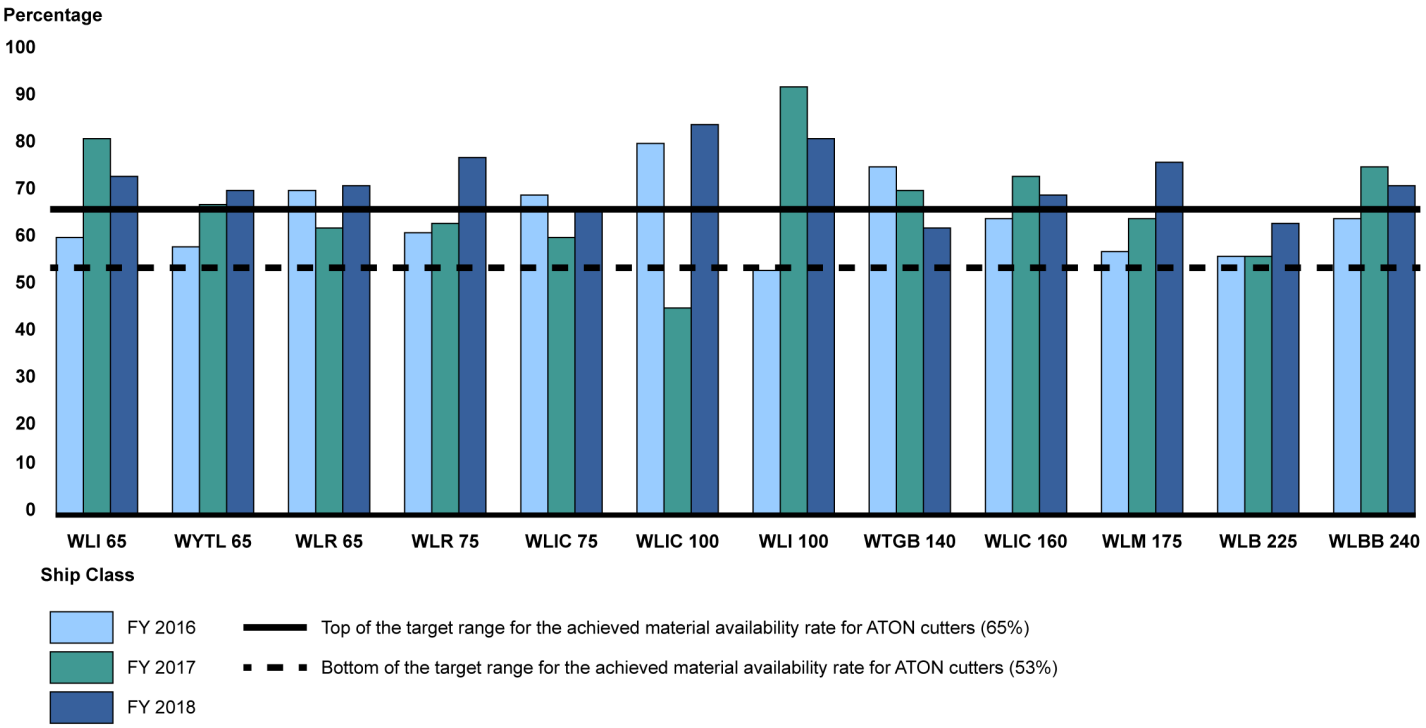


Source: GAO analysis of U.S. Coast Guard information. I GAO-20-107

The Coast Guard has established a target range for the achieved material availability rate for ATON cutters that includes a minimum rate of 53 percent to a maximum rate of 65 percent. According to our analyses of Coast Guard data, the achieved material availability rate for the ATON

cutters varied by cutter class during fiscal years 2016 through 2018, with 10 of the 12 cutter classes having met or exceeded the minimum target material availability rate for all 3 years and the remaining 2 ATON cutter classes having met or exceeded the minimum target material availability rate for 2 of the 3 years analyzed. While most of the ATON cutters met Coast Guard availability rate targets during fiscal years 2016 through 2018, officials in 7 of the 9 districts noted that maintaining some older ATON cutters can take longer to repair because of old and obsolete equipment and the lack of available parts, which decreases their availability to conduct missions. Figure 9 shows the achieved material availability rate for ATON cutters for fiscal years 2016 through 2018.[17]

Figure 9: Aids to Navigation (ATON) Cutter Classes Achieved Material Availability Rates, Fiscal Years 2016 through 2018



Source: GAO analysis of U.S. Coast Guard information. I GAO-20-107

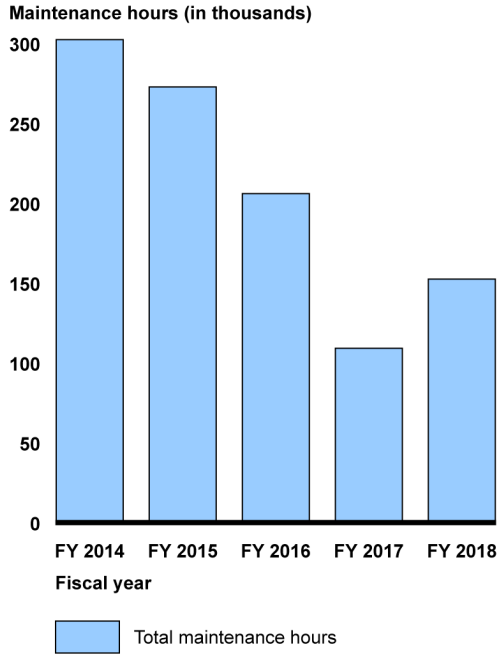
Note: The figure includes acronyms used by the Coast Guard for the various classes of ATON cutters. See Appendix I for the full name of each of these ATON cutters, as well as other information about the cutters.

[17]Data were not available to compute the achieved material availability rate for ATON cutters for fiscal years 2014 and 2015.

ATON boats

According to our analysis of Coast Guard data, we found that the total number of maintenance hours for ATON boats generally decreased during fiscal years 2014 through 2018, although there was an increase from fiscal year 2017 to 2018. Figure 10 shows the total maintenance hours for ATON boats during fiscal years 2014 through 2018.

Figure 10: Total Maintenance Hours for Aids to Navigation (ATON) Boats, Fiscal Years 2014 through 2018



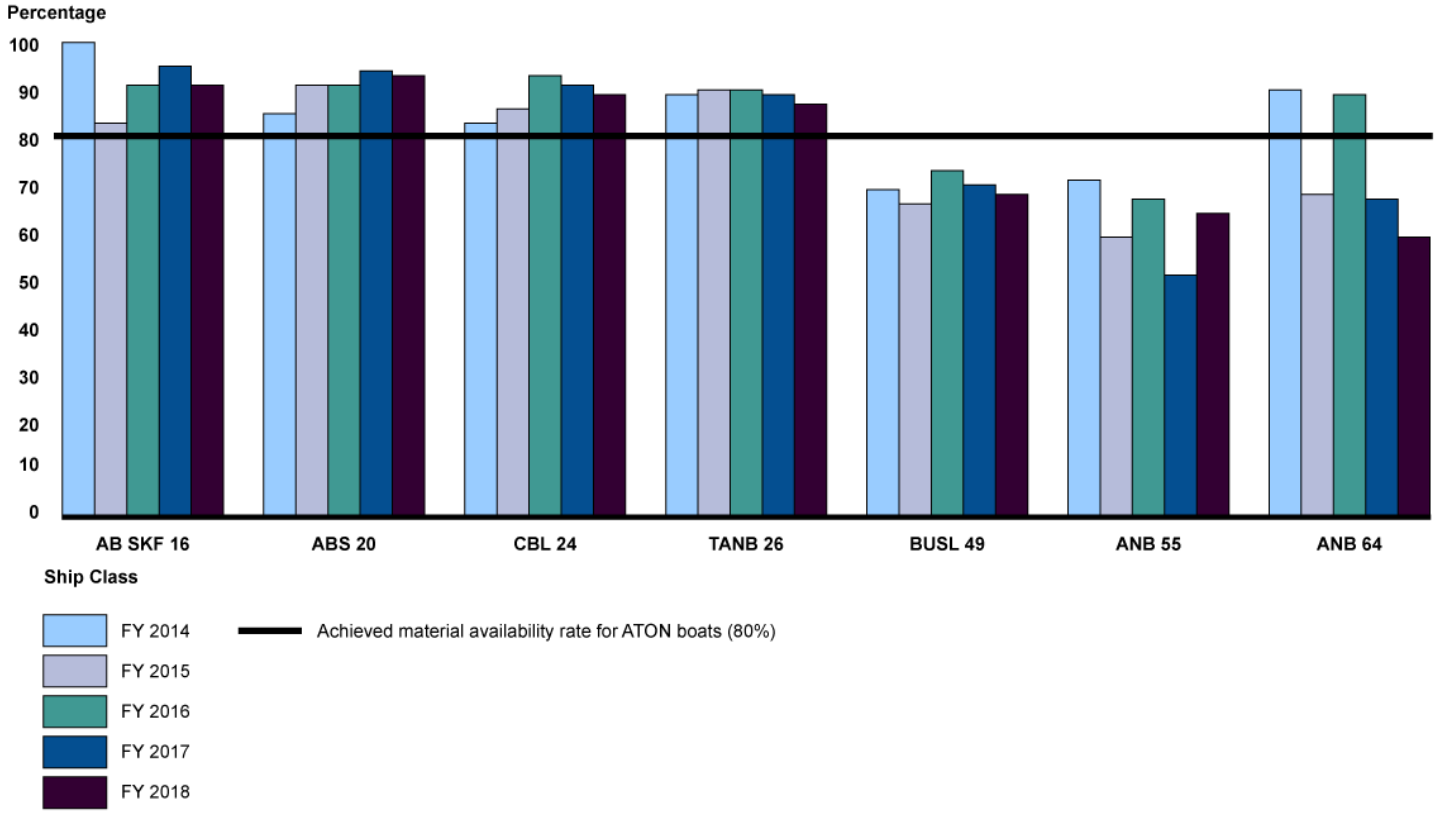
Source: GAO analysis of U.S. Coast Guard information. | GAO-20-107

Note: Maintenance data for ATON boats did not differentiate between planned versus unplanned maintenance.

In comparison to ATON cutters, which have a target range for the achieved material availability rate, ATON boats have a material availability threshold of 80 percent. According to our analyses of Coast Guard data, 4 of the 7 classes of ATON boats consistently achieved the 80 percent availability threshold during fiscal years 2014 through 2018. In particular, we found that the four smaller classes of ATON boats—those 16 to 26 feet in length—consistently achieved the 80 percent availability threshold during fiscal years 2014 through 2018, whereas the three larger classes of ATON boats—those 49-feet in length and longer—failed to consistently meet the 80 percent availability threshold during this 5-year

period. In addition to the data on achieved material availability rates, Coast Guard officials from 3 of the 9 districts noted they experienced challenges with the availability of ATON boats. Figure 11 shows the achieved material availability rate for seven classes of ATON boats.

Figure 11: Aids to Navigation (ATON) Boats' Achieved Material Availability Rates, Fiscal Years (FY) 2014 through 2018



Source: GAO analysis of U.S. Coast Guard information. I GAO-20-107

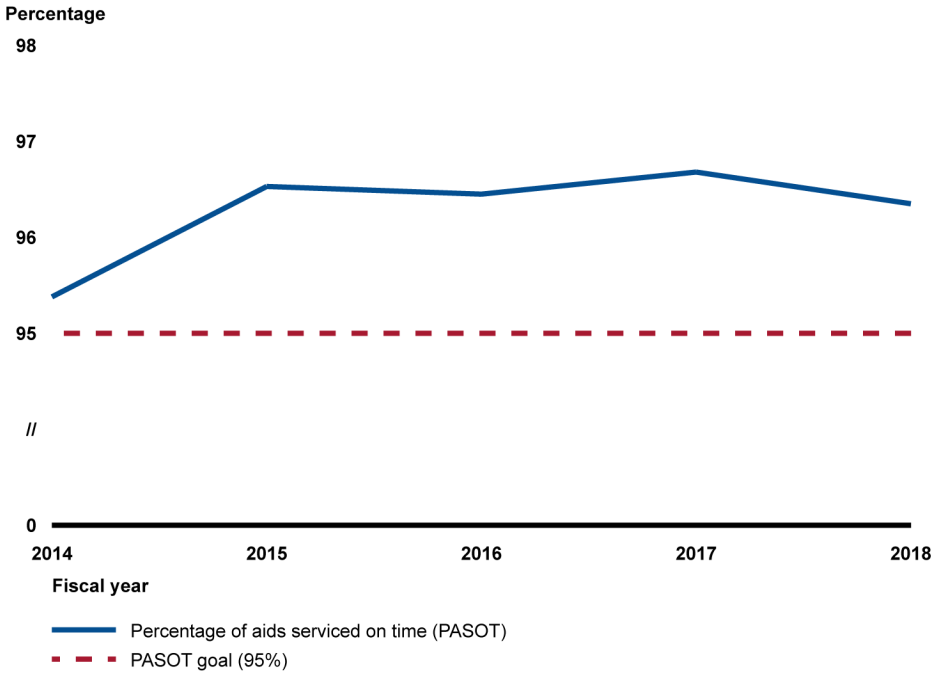
Note: The figure includes acronyms used by the Coast Guard for the various classes of ATON boats. See Appendix I for the full name of each of these ATON boats, as well as other information about the boats.

Ability to Keep Pace with Routine ATON Servicing Requirements

Coast Guard ATON servicing is the work required to fix or replace any part of an ATON that has been damaged while the ATON is in position. According to Coast Guard officials, routine servicing of fixed and floating ATON in a timely manner can be a challenge because of such factors as resource constraints, severe weather, and difficulty accessing some fixed ATON due to ecological or environmental factors. Despite these challenges, the Coast Guard has been able to meet its aids serviced on

time target each year during fiscal years 2014 through 2018. Specifically, according to our analysis of Coast Guard data, while there has been some limited variance from one year to the next, the percentage of aids serviced on time has consistently remained over the target goal of 95 percent during fiscal years 2014 through 2018, as shown in figure 12.

Figure 12: Percentage of Aids to Navigation (ATON) Serviced on Time, Fiscal Years 2014 through 2018



Source: GAO analysis of U.S. Coast Guard information. I GAO-20-107

While the Coast Guard was able to exceed the 95 percent target in terms of percentage of aids serviced on time during fiscal years 2014 through 2018, there was still a fairly stable number of fixed and floating ATON that were not serviced on time during these years. Specifically, according to data provided by the Coast Guard, during fiscal years 2014 through 2018, there was an average of about 1,400 ATON overdue for service each of these years, with fluctuations ranging from a high of 1,555 in fiscal year 2016 to a low of 1,151 in fiscal year 2017. According to Coast Guard ATON officials, the Coast Guard is aware of this issue and is taking steps to reduce the ATON servicing backlog. For example, according to the Coast Guard, in 2017 the Coast Guard allocated an additional $3 to $4

million in annual funding in order to help reduce the ATON servicing backlog.

Limited Capacity for Major ATON Repairs and Refurbishments

The limited capacity for major ATON repairs and refurbishments has led to floating ATON shortages and deferred maintenance backlogs.[18] Available Coast Guard data show an overall floating ATON shortage for all districts that includes total shortages in recapitalization and refurbishment inventories of 4,406 in fiscal year 2017 and 4,162 in fiscal year 2018.[19] Floating ATON that require major repairs or refurbishment are generally transported to an industrial facility operated by either the Coast Guard or a contractor. Figure 13 shows key steps in the process for refurbishing a steel buoy—blast cleaning the buoy hull, welding it where necessary, and applying new paint.

[18]Coast Guard officials told us that they did not track the number of fixed ATON repaired during fiscal years 2014 through 2018, so data were not available to compute any potential fixed ATON shortages or backlogs for this time period.

[19]The floating ATON shortfall is determined at the end of a given fiscal year by adding (1) the number of buoys due for overhaul (repair and refurbished) that were not overhauled, (2) the shortage in maintenance relief hulls that were not purchased (i.e., recapitalized), and (3) the number of buoys beyond their designed service lives that were not purchased (i.e. recapitalized). To determine the total floating ATON shortfall there is a comparison of buoys overhauled and purchased compared to the total need.

Figure 13: Summary of the Refurbishment Process for a Steel Buoy

Source: GAO analysis of U.S. Coast Guard information; GAO (photos). I GAO-20-107

The Coast Guard Has Developed Plans and Initiatives to Address ATON Challenges, but There Is Limited Assurance that They Will Be Effectively Implemented

The Coast Guard has taken positive steps to manage the ATON program, including issuing strategic plans and directions, creating a unit to provide a Coast Guard-wide perspective in managing ATON, and developing various initiatives to improve management of fixed and floating ATON. However, we found that some ATON-related initiatives to be implemented Coast Guard-wide, such as the foam buoy implementation initiative, do not contain certain elements that can provide better assurance that they will be effectively implemented, such as milestones and completion dates, and desired outcomes to be achieved.[20]

[20]Other initiatives that are carried out through established Coast Guard procedures and requirements, such as centralized funding for ATON inspection and major repair services, do not require the same elements.

Strategic Plans to Improve ATON Program Management

The Coast Guard has developed strategic plans and directions that provide guidance for addressing challenges faced in managing fixed and floating ATON. In June 2007, the Coast Guard issued the *Maritime Short Range Aids to Navigation Strategic Plan* to coordinate and standardize a number of ATON mission activities. According a Coast Guard official, at the time this strategic plan was issued, ATON units within the Coast Guard's nine districts were operating largely independently in terms of planning and conducting ATON missions and activities. The 2007 plan changed this by developing a strategic approach to ATON management and it identified a number of initiatives to improve ATON program management, including reducing ATON lifecycle costs and maintenance needs, increasing efficiency and service intervals, and improving the performance and reliability of fixed and floating ATON.

More recently, the Coast Guard issued the *Navigation Systems Strategic Voyage Plan for Fiscal Years 2017-2022*, which updates and expands on the 2007 strategic plan by identifying priorities that impact ATON program management broadly and the management of fixed and floating ATON in particular. The plan specifically identifies initiatives, including the use of non-steel floating ATON, development of year-round floating ice ATON, increased use of LED lighting, and the increased use of less expensive fixed ATON alternatives in lieu of lighthouses.

In addition to the 2007 and 2017 strategic plans, the Coast Guard also issues annual *Strategic Planning Directions*. These annual directions outline the Coast Guard's strategic commitments and are the primary mechanism for apportioning resources and providing guidance to field units on initiatives and actions to improve mission operations, including the ATON mission. For example, the Coast Guard has emphasized continuing to leverage electronic ATON technology where appropriate in an effort to reduce seasonal ATON workload, such as in districts with ATON in waters that are subject to freezing during a part of the year.

Creation of the Waterways Operations Product Line

In addition to developing a strategic approach to management of fixed and floating ATON through its strategic plans, the Coast Guard also created a new unit to provide a Coast Guard-wide, centralized perspective in managing fixed and floating ATON engineering and logistics. In particular, in 2016, the Coast Guard created the Waterways Operations Product Line (WOPL) to centrally manage the distribution, repair, and replacement of fixed and floating ATON and parts; as well as to formulate requests for ATON resources and funding. Since its creation, WOPL has coordinated and helped to implement various Coast Guard-wide initiatives to improve the management of fixed and floating ATON.

These initiatives include centralized funding for ATON inspection and major repair services, changes in cost limits for floating ATON refurbishments, and expansion of commercial depot-level maintenance contracts to supplement the Coast Guard's ATON major repair and refurbishment capacity. WOPL has also analyzed and recommended the transition from steel to foam buoys, where appropriate, to increase life cycle cost savings and reduce servicing times. In addition, WOPL has initiated changes to better manage and sustain the duration of floating ATON, including extending time in the water between major refurbishments from 6 to 9 years for some buoys and increasing the allowance for selected steel buoy hull repair weld hours.

Initiatives to Address Specific ATON Management Challenges

The Coast Guard has developed and is implementing a variety of initiatives to address specific ATON management challenges that were discussed earlier in this report. These initiatives include the following:

Improving the Availability of ATON Cutters and Boats: The Coast Guard has ongoing initiatives to extend the service lives and to recapitalize certain ATON cutters and boats to improve their availability rates. For example, in fiscal year 2019, the Coast Guard continued the major maintenance availability efforts on the 225-foot Seagoing Buoy Tender fleet.[21] In addition, from 2006 to 2016, a portion of the Coast Guard's ATON fleet (River Tenders, Buoy Tenders, and Construction Tenders) underwent a limited maintenance program to act as a bridging strategy until replacement assets could be acquired. Our 2018 report on Coast Guard acquisitions noted that the designed service life for each of these tenders is 30 years, but as of the time of the report, their average age was 53 years.[22] In 2018, we reported that the Department of Homeland Security approved the Waterways Commerce Cutter Program to replace aging River Tenders, Buoy Tenders, and Construction Tenders. While the acquisitions have been approved, it will likely be years before the new cutters are built and deployed. The Coast Guard has also had an ongoing initiative since 2007 that has recapitalized the boat fleet by 290 boats.

[21]Major maintenance availabilities are intended to correct system obsolescence issues and to maintain reliability and supportability throughout the remainder of the cutter's service life.

[22]GAO, *Coast Guard Acquisitions: Actions Needed to Address Longstanding Portfolio Management Challenges,* GAO-18-454 (Washington, D.C.: Jul. 24, 2018).

Conducting Routine ATON Servicing in a Timely Manner: The Coast Guard has issued guidance to its districts to look for opportunities to reduce the number of ATON that do not significantly increase navigational risk and explore and leverage new technologies, such as the use of electronic ATON, where feasible. Collectively, these efforts should help to ease the servicing burden.[23] In addition, the Coast Guard has also introduced initiatives focused on improving ATON servicing time. For example, officials in one district told us that they require their ATON units to send in monthly reports on ATON servicing due dates and plans. District officials review this information and may shift ATON servicing work to another unit when the primary servicing vessel or unit is not available to provide the needed service in a timely manner. Another ongoing initiative the Coast Guard is exploring is the use of year-round buoys for ice prone areas to reduce servicing requirements. The Coast Guard has received positive feedback in two of the three districts where such buoys have been in service.[24]

Improving Capacity Limits at ATON Major Repair and Refurbishment Facilities: According to a Coast Guard official, the Coast Guard has had commercial contracts in District 9 (the Great Lakes region) and District 13 (the Pacific Northwest) going back decades to provide floating ATON major repair and refurbishment services. Then, in March 2019, WOPL awarded four regional commercial contracts to provide increased capacity for ATON major repairs and refurbishments in an effort to help reduce the Coast Guard's floating ATON major repair and refurbishment backlog. Specifically, the Coast Guard (1) renewed the contract in District 13; (2) awarded a contract covering California (part of District 11); (3) awarded a contract for a zone covering New England and the Mid-Atlantic (Districts 1 and 5); and (4) awarded a contract covering Guam (part of District 14). According to Coast Guard officials, the addition or renewal of these four regional contracts has resulted in greater capacity and flexibility to reduce the floating ATON major repair and refurbishment backlog.

[23]According to the Coast Guard, ATON reductions are also possible because an increasing percentage of vessels on U.S. waterways have onboard navigation capabilities (e.g., global positioning systems) and do not need to solely rely on fixed and floating ATON.

[24]Under normal operations, summer buoys have to be removed and replaced with ice tolerant buoys before the winter in ice prone areas, such as portions of the Great Lakes. The use of year-round capable buoys is intended to reduce the servicing time required to change out the buoys.

ATON Management Initiatives Lack Certain Elements

While the Coast Guard has developed various initiatives to improve management of fixed and floating ATON, these initiatives do not contain certain elements, which limit assurance that the initiatives will be effectively implemented. For example, we found that many initiatives we evaluated do not contain milestone and completion dates for Coast Guard-wide implementation, which are elements that can guide decisions on the success of the initiatives. Under the foam buoy implementation initiative, the Coast Guard evaluated the use of foam buoys in lieu of steel buoys (which are more expensive to overhaul) and found that it was feasible to replace steel buoys with foam buoys in some locations but not in others. For example, the Coast Guard's evaluations showed that foam buoys cannot stand up to ice conditions. On the basis of its evaluations, the Coast Guard plans to continue replacing certain classes of steel buoys with foam buoys where operationally feasible. However, the initiative does not contain milestone dates or desired outcomes for Coast Guard-wide implementation.

According to guidance from the Program Management Institute, programs or projects—like the ATON-related initiatives being implemented by the Coast Guard—are to include specific, desired outcomes, along with the appropriate steps and time frames needed to achieve the final outcomes and results to implement the enhanced capabilities across the organization.[25] In addition, our leading practices in capital decision-making state that such initiatives should include milestones and completion dates.[26] According to Coast Guard officials, WOPL is a relatively new unit and is still developing ATON guidance and procedures for ATON-related initiatives and responsibilities to be performed by the districts. By updating its ATON-related initiatives to include the specific outcomes desired and timeframes for completing them, the Coast Guard would have better assurance that its initiatives to address ATON management challenges will be effectively implemented.

Conclusions

Available Coast Guard data indicate that despite some slight declines in the condition of fixed and floating ATON, and increasing repair and recapitalization costs for floating ATON, the Coast Guard's ability to meet

[25]Project Management Institute, Inc., *The Standard for Program Management,* 4th ed. (Newtown Square, PA: 2017, 36-37.

[26]GAO, *Executive Guide*: *Leading Practices in Capital Decision Making*, GAO/AIMD-99-32 (Washington, D.C.: December 1998).

its ATON mission did not show a marked decline during fiscal years 2014 through 2018. However, the future of the fixed and floating ATON and the vessels used to service them bears close watching given the challenges the Coast Guard faces in managing its fixed and floating ATON. The fact that many of the ATON have reached, or will soon be reaching, the end of their designed service lives could lead to an increase in the number of ATON requiring major repairs or replacement in the near future. According to Coast Guard data, the Coast Guard's ability to refurbish or replace its aging ATON is made more challenging by limited capacity for conducting major repairs and refurbishments of floating ATON. The Coast Guard has taken positive steps to develop strategic plans to guide the ATON program, and these plans have led to the development of various initiatives to improve management of fixed and floating ATON, but these initiatives would benefit from the inclusion of certain elements, such as desired outcomes to be achieved and associated milestone dates, to have better assurance that the initiatives will be effectively implemented.

Recommendation

The Commandant of the Coast Guard should direct the Assistant Commandant for Engineering and Logistics and Assistant Commandant for Prevention Policy to update the Coast Guard's ATON-related initiatives to include the specific outcomes to be achieved and associated time frames. (Recommendation 1)

Agency Comments

We provided a draft of this report to DHS for review and comment. In its comments, reproduced in appendix II, DHS concurred with our recommendation and stated that the Coast Guard plans to review and update ATON-related initiatives to include specific outcomes with associated implementation milestones by December 31, 2020. DHS also provided technical comments that we incorporated into the report, as appropriate.

We are sending copies of this report to the appropriate congressional committee, the Secretary of Homeland Security, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (206) 287-4804 or AndersonN@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Nathan Anderson
Director, Homeland Security and Justice Issues

Appendix I: The Coast Guard's Fleet of Aids to Navigation Vessels

Figure 14 provides information on the cutters and boats that comprise the Coast Guard's fleet of aids to navigation (ATON) vessels.

Figure 14: Information on the Coast Guard's Aids to Navigation Vessels

64-ft. Aids-to-navigation boat (ANB 64)

Quantity of vessels	3
Estimated service life	20 years
Average age	40 years
Number of crew	6
Maximum speed	9 knots
Cruising range (nautical miles)	500 nm

55-ft. Aids-to-navigation boat (ANB 55)

Quantity of vessels	3
Estimated service life	30 years
Average age	22.6 years
Number of crew	5
Maximum speed	21 knots
Cruising range (nautical miles)	900 nm

49-ft. Buoy stern loading boat (BUSL 49)

Quantity of vessels	26
Estimated service life	20 years
Average age	19.8 years
Number of crew	4
Maximum speed	10 knots
Cruising range (nautical miles)	300 nm

38-ft. Special purpose craft training boat (SPC TB 38)

Quantity of vessels	2
Estimated service life	Not available
Average age	Not available
Number of crew	6
Maximum speed	30 knots
Cruising range (nautical miles)	200 nm

26-ft. Trailerable ATON boat (TANB 26)

Quantity of vessels	89
Estimated service life	10 years
Average age	10.8 years
Number of crew	4
Maximum speed	38 knots
Cruising range (nautical miles)	170 nm

24-ft. ATON Cutterboat - Large (CBL 24)

Quantity of vessels	17
Estimated service life	10 years
Average age	6 years
Number of crew	7
Maximum speed	30 knots
Cruising range (nautical miles)	110 nm

20-ft. ATON boat - small (ABS 20)

Quantity of vessels	24
Estimated service life	10 years
Average age	7.9 years
Number of crew	2
Maximum speed	31 knots
Cruising range (nautical miles)	78 nm

16-ft. ATON boat - SKIFF (AB SKF 16)

Quantity of vessels	26
Estimated service life	10 years
Average age	7.1 years
Number of crew	2
Maximum speed	41 knots
Cruising range (nautical miles)	54 nm

Source: GAO analysis of U.S. Coast Guard information. I GAO-20-107

Appendix II: Comments from the Department of Homeland Security

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

January 16, 2020

Nathan Anderson
Director, Homeland Security and Justice Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Re: Management Response to Draft Report: GAO-20-107, "COAST GUARD: Initiatives to Address Aids to Navigation Challenges Could be Enhanced to Better Ensure Effective Implementation"

Dear Mr. Anderson:

Thank you for the opportunity to review and comment on this draft report. The U.S. Department of Homeland Security (DHS) appreciates the U.S. Government Accountability Office's (GAO) work in planning and conducting its review and issuing this report.

The Department is pleased to note GAO's acknowledgement that the Coast Guard has (1) consistently exceeded its annual goal of servicing aids to navigation (ATON) on time, and (2) taken positive steps in program management by developing various ATON initiatives, including issuing strategic plans and directions, creating a unit to provide a Coast Guard-wide perspective in managing ATON, and improving management of fixed and floating ATON. The Coast Guard remains committed to effectively implementing these initiatives, which are designed to address ATON management challenges and better assist those operating in the U.S. Marine Transportation System.

The draft report contained one recommendation, which with the Department concurs. Attached find our detailed response to the recommendation. DHS previously submitted technical comments under a separate cover.

Again, thank you for the opportunity to review and comment on this draft report. Please feel free to contact me if you have any questions. We look forward to working with you again in the future.

Sincerely,

JIM H. CRUMPACKER, CIA, CFE
Director
Departmental GAO-OIG Liaison Office

Attachment

2

Attachment: Management Response to Recommendation Contained in GAO-20-107

GAO recommended that the Commandant of the Coast Guard:

Recommendation 1: Direct the Assistant Commandant for Engineering and Logistics and Assistant Commandant for Prevention Policy to update the Coast Guard's ATON-related initiatives to include the specific outcomes to be achieved and associated time frames.

Response: Concur. The Coast Guard's Offices of Civil Engineering and of Navigation Systems will collectively review and update ATON-related initiatives to include specific outcomes with associated implementation milestones, as appropriate. Estimated Completion Date: December 31, 2020.

3

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Nathan Anderson, (206) 287-4804 or AndersonN@gao.gov

Staff Acknowledgments

In addition to the contact name above, Christopher Conrad (Assistant Director), Hugh Paquette (Analyst in Charge), Chuck Bausell, Breanne Cave, Benjamin Crossley, Dorian Dunbar, Michele Fejfar, Tracey King, Joshua Lanier, and Adam Vogt made significant contributions to this report.

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Strategic Planning and External Liaison

James-Christian Blockwood, Managing Director, spel@gao.gov, (202) 512-4707
U.S. Government Accountability Office, 441 G Street NW, Room 7814,
Washington, DC 20548